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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/664,883

09/22/2003

Tatsuhiko Fukuzawa

50195-388

4240

7590 02/23/2007
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EXAMINER

HODGE, ROBERT W

ART UNIT

PAPER NUMBER

1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/664,883

Applicant(s)

FUKUZAWA ET AL.

Examiner

Robert Hodge

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 12/8/06 have been fully considered but they are not persuasive. Applicants state that the Uchino reference does not teach exposing the collector plates through an opening in the laminated sheet housing in the stacking direction and further state that the present invention does not require tabs and Uchino uses tabs. As is described in paragraph 10 and 11 of Uchino there is an aluminum charge collector 1a with a positive lead 7 made of aluminum that is welded to the charge collector 1a, and a copper charge collector 2a with a negatived lead 9 made of copper that is welded to the charge collector 2a, thus with both collectors the leads and the collector become one piece. It is especially clear since the same materials are used for the collectors and the leads and they are welded together they will form a unified charge collector. With respect to the opening in the stacking direction, as can be seen in figure 2 of Uchino, there is an opening in the housing 10 around the lead 9, which is integral with the charge collector 2a as discussed above, and then in the vertical stacking direction there is another opening in the housing 10 around lead 7, which is integral with the charge collector 1a as discussed above. Therefore as clarified herein Uchino still reads on the claims as recited.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208

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USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 4, 5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by JP-2002-075455 hereinafter Uchino.

Uchino teaches a stacked lithium ion secondary battery comprising sheet electrodes including a collector and a polymer electrolyte positioned between the electrodes which are located on the outermost layers in such a manner so that the collectors are exposed to the outside and function as terminals, wherein said stacked lithium ion secondary battery is a plurality of batteries connected in series and said stacked battery is used in a vehicle (abstract, paragraphs [0002] and [0007]-[0011]).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2, 3, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchino in view of U.S. Patent No. 5,618,641 hereinafter Arias.

Uchino teaches everything in the above 102 rejection as well as that the positive active material includes a composite oxide of lithium and a transition metal and the

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negative active material includes any one of a carbon and the composite oxide of lithium and transition metal (paragraphs [0019] and [0020]).

Uchino does not teach bipolar electrodes or that the stacked batteries can be arranged in parallel or that a sealing resin is used around an edge of the opening.

Arias teaches a bipolar battery construction having stacked batteries that can be arranged in series or parallel (abstract and column 1, lines 28-29). Arias also teaches the importance of sealing the openings of bipolar batteries with elastomeric edge seals (column 7, lines 34 et seq.)

At the time of the invention it would have been obvious to one having ordinary skill in the art to include the teaching of the Arias reference in the Uchino reference in order to provide a stacked battery configuration that would be more compact by replacing the electrodes of Uchino with bipolar electrodes which are well known in the art and also arranging the stacked batteries either in series or parallel in order to achieve the desired voltage and current output for the application at hand. It would have also been obvious to seal around the openings of Uchino in order to prevent gases such as hydrogen from escaping the battery thus causing an explosion hazard and also to prevent anything from the external environment from entering the battery, which could cause a short circuit or severely reduce the life of the battery such as moisture.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Hodge whose telephone number is (571) 272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RWH



FREDERICK J. GEDEN
SENIOR PATENT EXAMINER